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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,242	03/18/2004	Hans-Jurgen Muller	P04,0038	5979

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SCHIFF HARDIN, LLP
PATENT DEPARTMENT
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CHICAGO, IL 60606-6473

EXAMINER

KIKNADZE, IRAKLI

ART UNIT	PAPER NUMBER
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2882

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/803,242	Applicant(s) MULLER, HANS-JURGEN	
	Examiner Irakli Kiknadze	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 5-10 and 15 is/are allowed.
 6) ☒ Claim(s) 1-4, 11-14 and 16-20 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/2004; 7/24/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In response to the Office action dated September 12, 2006 the Amendment has been received on December 12, 2006.

Claims 1, 5, 15 and 18 have been amended.

Claims 1-21 are currently pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 11, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Zupancic et al. (US Patent 4,969,167).

With respect to claims 1, 17 and 18, Zupancic teaches a cooling method and system for components such as the x-ray detectors (20) and other features of a computer tomography system arranged in a gantry housing (Figs. 1-3 and 6; see abstract; column 2, lines 10-14), comprising:

an air feed device including:

an air compressor (74) operable to compress air (Figs. 2, 3 and 6; column 4, lines 48-50 and 54-60; and

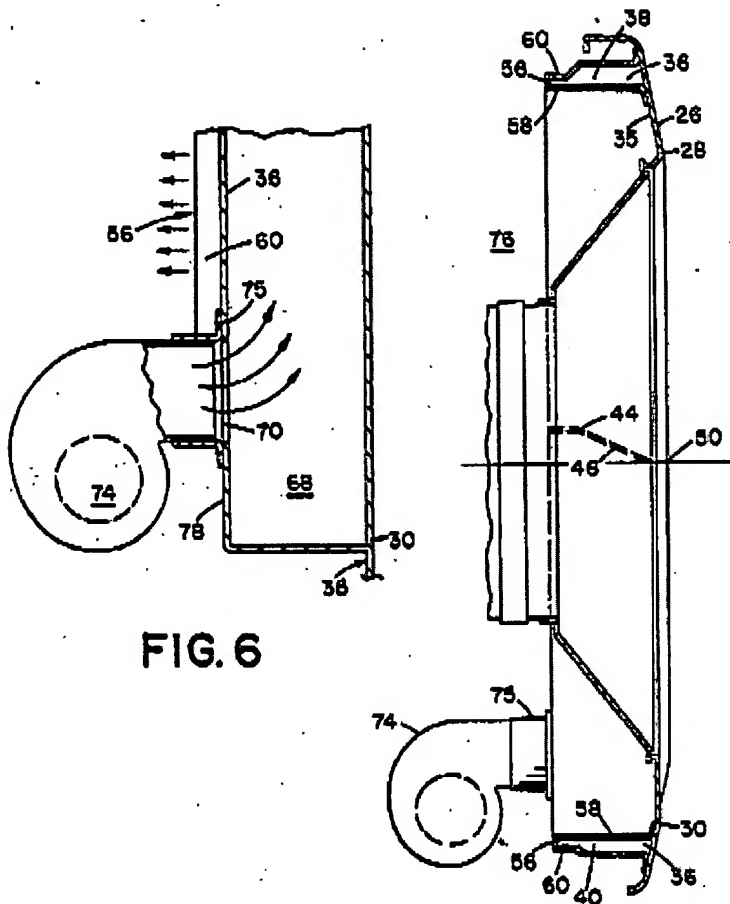


FIG. 6

FIG. 3

streaming elements (a

cooling duct (36) see column 4, lines 7-12 and a nozzle opening (56) see column 4, lines 54-60) connected to receive and dispose air flows directly onto the components (20) to be cooled (column 4, lines 7-12, 22-23, 54-60 and 64-68).

With respect to claim 2, Zupancic teaches that the air compressor (74) positioned adjacent to the elements to be cooled. The air compressor (74) is operable to accept and compress ambient air (Fig. 2, 3 and 6; column 4, lines 48-50).

With respect to claim 11, Hell teaches nozzle heads (56) arranged and fashioned such that the compressed air is guided directly to stationary arranged components

inside the gantry housing (column 3, lines 39-41; column 4, lines 7-12, 22-23, 54-60 and 64-68).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

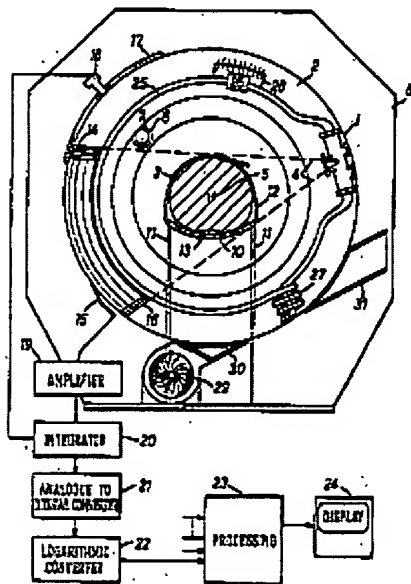
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zupancic et al. (US Patent 4,969,167).

With respect to claim 4, Zupancic teaches claimed invention except for heat-insulated lines from the compressor to the computer tomography system and into the gantry housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the heat-insulated lines from the compressor to the computer tomography system and into the gantry housing in the apparatus of Zupancic, since such a modification would improve cooling of components arranged in the gantry by preventing the unnecessary heat exchange with higher degree of efficiency.

6. Claims 12-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zupancic et al. (US Patent 4,969,167) as applied to claim 1, 17 and 18 above, and further in view of Hounsfield et al. (US Patent 4,115,697).

With respect to claims 12-14 and 20, Zupancic teaches claimed invention except for openings through which heated air escapes outwards or an exhaust device operable to draw heated air from the gantry housing. Hounsfield teaches a cooling method and system for components of a computer tomography system arranged in a gantry



housing (8), comprising: flow-through openings (31),

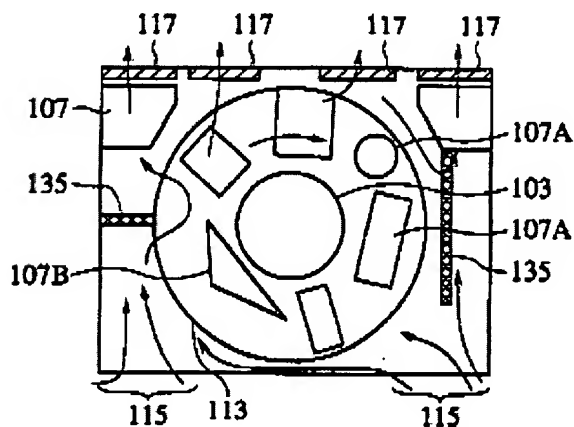
which may be fan assisted, through which a heated air escapes from the gantry housing (8) (see Fig; column 3, lines 30-33) to improve cooling efficiency of the components arranged in the gantry.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the fan/blower and flow-through openings as suggested by Hounsfield in the system and method of Zupancic since such a modification would improve cooling of components arranged in the gantry by removing the heated air from the gantry while providing user with improved functionality of the x-ray CT system.

7. Claims 12-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zupancic et al. (US Patent 4,969,167) as applied to claim 1, 17 and 18 above, and further in view of Sugihara et al. (US Patent 5,761,269).

With respect to claims 12-14 and 20, Zupancic teaches claimed invention except for openings through which heated air escapes outwards or an exhaust device operable to draw heated air from the gantry housing. Sugihara teaches a cooling method and system for components of a computer tomography system arranged in a gantry

FIG.19



housing, comprising: flow-through openings

through which a heated air escapes from the gantry housing, wherein the heated air is discharged by a fan (117) (see Fig 19; column 7, lines 33-36) to improve cooling efficiency of the components arranged in the gantry (column 2, lines 31-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the fan/blower and flow-through openings as suggested by Sugihara in the system and method of Zupancic since such a modification would improve cooling of components arranged in the gantry by removing the heated air from the gantry while providing user with improved functionality of the x-ray CT system.

8. Claims 3, 16, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zupancic et al. (US Patent 4,969,167) as applied to claims 1 and 18 above, and further in view of Crago (US Patent 4,264,282).

With respect to claims 3, 16, 19 and 21, Zupancic teaches claimed invention except for cooling and dehumidifying the compressed air. Crago teaches an air compressor apparatus accepting and compressing an ambient air with cooling and dehumidifying capabilities (column 3, lines 40-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teachings of cooling and dehumidifying the compressed air as suggested by Crago in the invention of Zupancic, since such a modification would considerably improve cooling of components arranged in the gantry if the incoming compressed air is previously precooled. Further, dehumidifying the compressed air would allow user to prevent the formation of water vapor in the gantry housing due to the heat generated in the operation of the computer tomography system.

Allowable Subject Matter

9. Claims 5-10 and 15 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 5-10, prior art fails to teach or make obvious a cooling system for components of a computer tomography system arranged in a gantry housing, comprising: an annular carrier ring in or on which at least one of the components to be cooled is arranged, the annular carrier ring being rotatable around a measurement space in the gantry housing; and at least one exhaust element mounted stationary and disposed in or on the gantry housing through which the compressed air flows onto the components passing said at least one exhaust element upon a rotation of the carrier ring as claimed including all of the remaining limitations of the base claim and any intervening claims.

With respect to claim 15, prior art fails to teach or make obvious a cooling system for components of a computer tomography system arranged in a gantry housing, comprising: two coaxial bearings on two opposite sides on a stationary part of the computer tomography system by which the gantry housing is positioned around an axis, the cooling system being fashioned such that the heated air in a region of at least one of the bearings is guided out of the gantry housing in the stationary part as claimed including all of the remaining limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments with respect to claims 1-4, 11-14 and 16-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00-5:30.

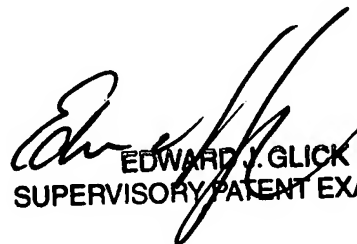
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irakli Kiknadze
March 23, 2006

IK


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER